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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,126	11/13/2000	Walter B. Hill JR.	3597-112-01	6456

7590 12/19/2001
Luke A. Kilyk
KILYK & BOWERSOX, P.L.L.C.
53A Lee Street
Warrenton, VA 20186

EXAMINER

ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/19/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,126

Applicant(s)

HILL, Jr., et al

Examiner

Steve Alvo

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 14,25-30 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13,15-24,31-39,41 and 42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7,8,9,10.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: ____.

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 1-13, 15-24, 31-39, 41 and 42, drawn to a method of treating pulp with an enzyme and cationic polymer, classified in Class 162, subclass 72.

II. Claims 26-30, drawn to an apparatus for treating pulp, classified in Class 162, subclass 243.

III. Claims 14, 25 and 40, drawn to a pulp product, classified in Class 162, subclass 100.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (M.P.E.P. § 806.05(e)). In this case the process of Group I does not require "a device for feeding an enzyme" nor "a device for making paper" as required by the apparatus of Group II. The paper of Group I could be made by hand. The apparatus of Group II does not require adding the enzyme and polymer at the same time.

Inventions I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made when the polymer and enzyme are added at different times.

Because these inventions are distinct for the reasons given above and have required a separate status in the art as shown by their different classification restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Luke A. Kilyk on October 25, 2001 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13, 15-24, 31-39, 41 and 42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14, 25, 26-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected species, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 6, 7, 13, 15-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 433 258 with or without JAQUESS.

EP 433 258 teaches adding oxidizing enzymes add about the same time a cationic polymer (cationic starch) is added to the pulp, see page 1, lines 17-22. The laccase of EP 433 258 does not differ from the enzyme used by Applicant. If necessary, Applicant discloses

enzymes of U. S. Patent 5,356,800 to JAQUESS; such Patent discloses using laccase (column 4, lines 27-31) and peroxidases (page 2, lines 50-51) as the enzyme. Thus the laccase and peroxidases of EP 433 258 obviously does not differ from the instant enzyme.

Claims 1, 3, 4, 6, 8-11, 13, 15-22, 24, 31-36, 38, 39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914.

SARKER et al '497 teaches treating all types paper pulp (col. 3, lines 3-5) with cellulolytic enzymes and cationic enzyme. In Table 1, SARKER et al '497 uses enzyme treatment times of 10 to 60 minutes. This reads on the instant "about the same time" which includes adding the two components within 10 minutes of each other, page 4, lines 5-6. It is also noted that SARKER et al '497 indicates that the enzyme should react for the pulp for 10 minutes. It does not indicate that the cationic polymer should not be added during the enzyme reaction. It would have been especially obvious to add the enzyme and polymer at times shorter than the 10 minutes of SARKER et al '497 as SARKER et al '914 teaches that booth the polymer and enzyme could be added at multiple addition points throughout the papermaking process (column 3, lines 60-67) and teaches that the enzyme can be added at any chest prior to the refiner and in the machine chest (col. 3, lines 53-56 and col. 5, lines 10-12). This is the same point where the cationic polymer is added (see SARKER et al '914, claim 1, step (d). No criticality has been shown for adding the additives less than 10 minutes apart, e.g. simultaneously. It would have been obvious to use any well-known pulp including sulfite pulp. See SARKER '914 for adding prior to the machine chest, prior to the refiners and at the vertical tank. See SARKER '914, claims 3 and 5 for a list of equivalent cationic polymers that can be used in the process. It would

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have been obvious to add different, but equivalent, cationic polymers in each of the multiple feed points taught by SARKER et al.

Claims 2, 7, 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914 as applied to claim 1 above, and further in view of EP 433 258.

EP 433 258 teaches adding cationic starch to paper pulp during enzymatic treatment increases the strength of the paper. It would have been obvious to add the cationic starch to the pulp of SARKER et al '497 to increase the paper strength as taught by EP 433 258. It would have been obvious to add the starch at various addition points in the same manner as the cationic starch and enzyme of SARKER '914.

Claims 5 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over SARKER et al '497 with or without SARKER et al '914 as applied to claim 1 above, and further in view of WO 99/43780.

WO 99/43780 teaches stabilizing enzymes during pulp treatment by using the enzyme in combination with a polyamide oligomer. It would have been obvious to add the polyamide oligomer of WO 99/43780 to stabilize the enzyme of SARKER '497.

When filing an "Official" FAX in Group 1730, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file. The "Official" FAX phone numbers for this TC 1700 are:

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Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman, can be reached on 703-308-3837.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **(703) 308-0661**.

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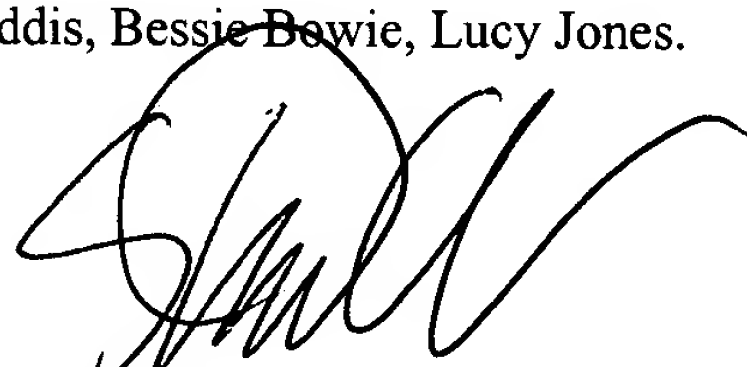
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STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731

MSA
12/15/01